CONTENTS OF VOLUME 231

No. 1, March, 1958

PAGE

Walker, James B. Further studies on the mechanism of transamidinase action: transamidination in *Streptomyces griseus* 1

Cifonelli, J. A., and Dorfman, Albert. A colorimetric method for determination of linkage in hexosamine-containing compounds 11

Tsuboi, K. K., Estrada, J., and Hudson, Perry B. Enzymes of the human erythrocyte. IV. Phosphoglucose isomerase, purification and properties .. 19

Spiro, Mary Jane, and Ball, Eric G. A comparison of the pathways of glucose catabolism in the normal and hyperthyroid rat 31

Kern, Milton, and Natale, Ralph. A diphosphopyridine nucleotidase and its protein inhibitor from *Mycobacterium butyricum* 41

Weiss, Samuel B., Smith, Sylvia Wagner, and Kennedy, Eugene P. The enzymatic formation of lecithin from cytidine diphosphate choline and D-1,2-diglyceride 53

Fischer, Edmond H., and Krebs, Edwin G. The isolation and crystallization of rabbit skeletal muscle phosphorylase *b* 65

Krebs, Edwin G., Kent, Alan B., and Fischer, Edmond H. The muscle phosphorylase *b* kinase reaction 73

Dayton, Peter G., and Burns, J. J. Metabolism of D-ascorbic acid-1-C^{14} in guinea pigs and rats 85

Morton, Helen J., and Morgan, Joseph F. Studies on the sulfur metabolism of tissues cultivated *in vitro*. IV. Ergothioneine, oxidized glutathione, and lanthionine 93

Jeffay, Henry, and Winzler, Richard J. The metabolism of serum proteins. I. The turnover rates of rat serum proteins 101

Jeffay, Henry, and Winzler, Richard J. The metabolism of serum proteins. II. The effect of dietary protein on the turnover of rat serum proteins 111

Hill, Robert L., and Smith, Emil L. Hydrolysis of mercuripapain by leucine aminopeptidase without loss of enzymatic activity 117

Frigerio, Norman A., and Harbury, Henry A. Preparation and some properties of crystalline glycolic acid oxidase of spinach 135

Engel, Lewis L., Alexander, Joyce, and Wheeler, Margaret. Urinary metabolites of administered 19-nortestosterone 159

Pentz, E. Irene. Factors influencing the excretion of taurine in irradiated rats with particular reference to the adrenal glands 165

Litwack, Gerald. Thyroid gland potency and kidney lysozyme state 175

Roll, Paul M. The incorporation of guanosine 5′-phosphate into the ribonucleic acid of the rat 183

Halkett, James A. E., Peters, Theodore, Jr., and Ross, Joseph F. Studies on the deposition and nature of egg yolk iron 187

Huang, Po Chao, and Miller, O. Neal. The metabolism of lactaldehyde. V. Metabolism of L-fucose 201

Baldridge, Robert C. The metabolism of histidine. II. Effects of folic acid deficiency 207

San Pietro, Anthony, and Lang, Helga M. Photosynthetic pyridine nucleo-

321670

tide reductase. I. Partial purification and properties of the enzyme from spinach 211
CHAN, P. C., BECKER, R. R., and KING, C. G. Metabolic products of L-ascorbic acid 231
HOAGLAND, MAHLON B., STEPHENSON, MARY LOUISE, SCOTT, JESSE F., HECHT, LISELOTTE I., and ZAMECNIK, PAUL C. A soluble ribonucleic acid intermediate in protein synthesis 241
CABIB, E., and LELOIR, LUIS F. The biosynthesis of trehalose phosphate 259
JAGENDORF, ANDRE T., and AVRON, MORDHAY. Cofactors and rates of photosynthetic phosphorylation by spinach chloroplasts 277
BRUNISH, ROBERT, and MOZERSKY, SAMUEL M. The characterization of hyaluronidase isolated from *Escherichia freundii* 291
HIATT, HOWARD H., GOLDSTEIN, MADELINE, LAREAU, JACQUELINE, and HORECKER, B. L. The pathway of hexose synthesis from pyruvate in muscle .. 303
YASUNOBU, KERRY T., and WILCOX, PHILIP E. Differences in the susceptibility of lysozyme and α-lactalbumin to the action of tyrosinase 309
ROSE, IRWIN A., and RIEDER, SIDNEY V. Studies on the mechanism of the aldolase reaction. Isotope exchange reactions of muscle and yeast aldolase 315
GORTON, BERT S., RAVEL, JOANNE M., and SHIVE, WILLIAM. Deazapteridines and deazapurines, inhibitory analogues of folic acid and guanine 331
HUGHES, ANN M., and TOLBERT, BERT M. Oxidation of acetate, glucose, or glycine to carbon dioxide in mice exhibiting the hereditary obesity syndrome 339
MASORO, E. J., and FELTS, J. M. Role of carbohydrate metabolism in promoting fatty acid oxidation 347
CARAVACA, JOSEFINA, and GRISOLIA, SANTIAGO. Enzymatic decarbamylation of carbamyl β-alanine and carbamyl β-aminoisobutyric acid 357
PAPKOFF, HAROLD, and LI, CHOH HAO. The isolation and characterization of growth hormone from anterior lobes of whale pituitaries 367
FOLK, J. E., and GLADNER, JULES A. Carboxypeptidase B. I. Purification of the zymogen and specificity of the enzyme 379
GLADNER, JULES A., and FOLK, J. E. Carboxypeptidase B. II. Mode of action on protein substrates and its application to carboxyl terminal group analysis 393
DOBRICK, LEONARD A. Screening method for glucose of blood serum utilizing glucose oxidase and an indophenol indicator 403
GIOVANELLI, J., and STUMPF, P. K. Fat metabolism in higher plants. X. Modified β oxidation of propionate by peanut mitochondria 411
KELLERMAN, GEOFFREY M. Benzoyl adenylate and hippuryl adenylate: preparation, properties, and relationship to the synthesis and transport of hippurate 427
GOLDZIEHER, JOSEPH W., BESCH, PAIGE K., and VELEZ, MARY E. The turnover of S^{35}-labeled glutathione in rat adrenal cortex and liver 445
GOLDZIEHER, JOSEPH W., BESCH, PAIGE K., and VELEZ, MARY E. The localization and turnover of glutathione in the rat testis 459
WAY, JAMES L., and PARKS, R. E., JR. Enzymatic synthesis of 5′-phosphate nucleotides of purine analogues 467
MUDD, S. HARVEY, and CANTONI, G. L. Activation of methionine for transmethylation. III. The methionine-activating enzyme of bakers' yeast .. 481

BARRON, EDWARD J., and HANAHAN, DONALD J. Observations on the silicic acid chromatography of the neutral lipides of rat liver, beef liver, and yeast.... 493
POMERANTZ, SEYMOUR H. A mass analysis study of the metabolism of propionate by *Propionibacterium arabinosum*.... 505
POMERANTZ, SEYMOUR H., and WOOD, HARLAND G. A mass analysis study of formaldehyde fixation and cleavage of lactate by *Propionibacterium arabinosum*.... 519
PIEZ, K. A., and EAGLE, HARRY. The free amino acid pool of cultured human cells.... 533
SCHELLENBERG, KARL A., and HELLERMAN, LESLIE. Oxidation of reduced diphosphopyridine nucleotide.... 547
REISS, OSCAR K., and HELLERMAN, LESLIE. Pyruvate utilization in heart sarcosomes. Inhibition by an arsenoso compound and reactivation by lipoic acid.... 557
VAN EYS, JAN, CIOTTI, MARGARET M., and KAPLAN, NATHAN O. Yeast alcohol dehydrogenase. IV. Coenzyme binding sites.... 571

No. 2, APRIL, 1958

CORNISH, HERBERT H., and BLOCK, WALTER D. Metabolism of chlorinated naphthalenes.... 583
WOTIZ, HERBERT H., BOTTICELLI, CHARLES, HISAW, FREDERICK L., JR., and RINGLER, IRA. Identification of estradiol-17β from dogfish ova (*Squalus suckleyi*).... 589
WOTIZ, HERBERT H., ZISKIND, BARBARA S., and RINGLER, IRA. Studies in steroid metabolism. VI. The fate of estrone-16-C^{14} in rat blood.... 593
SARCIONE, EDWARD J., and SOKAL, JOSEPH E. Detoxication of thiouracil by *S*-methylation.... 605
MELCHIOR, NORTEN C., and MELCHIOR, JACKLYN B. The role of complex metal ions in the yeast hexokinase reaction.... 609
BACHHAWAT, BIMAL K., and COON, MINOR J. Enzymatic activation of carbon dioxide. I. Crystalline carbon dioxide-activating enzyme.... 625
WEAVER, ROBERT H., and HERBST, EDWARD J. Metabolism of diamines and polyamines in microorganisms.... 637
WEAVER, ROBERT H., and HERBST, EDWARD J. The oxidation of polyamines by *Neisseria perflava*.... 647
PUTNAM, FRANK W., MIYAKE, AIKO, and MEYER, FRANZ. The metabolism of DL-glutamic acid-1-C^{14} in man.... 657
PUTNAM, FRANK W., and MIYAKE, AIKO. Proteins in multiple myeloma. VIII. Biosynthesis of abnormal proteins.... 671
LAMBORG, MARVIN, STOLZENBACH, FRANCIS E., and KAPLAN, NATHAN O. The nicotinic acid analogue of diphosphopyridine nucleotide.... 685
ZENKER, NICOLAS, and BERNSTEIN, DONALD E. The estimation of small amounts of corticosterone in rat plasma.... 695
EINSET, EYSTEIN, and CLARK, WALTER L. The enzymatically catalyzed release of choline from lecithin.... 703
GROSSMAN, LAWRENCE, and KAPLAN, NATHAN O. Nicotinamide riboside phosphorylase from human erythrocytes. I. Phosphorolytic activity.... 717
GROSSMAN, LAWRENCE, and KAPLAN, NATHAN O. Nicotinamide riboside phosphorylase from human erythrocytes. II. Nicotinamide sensitivity.... 727

DICKMAN, SHERMAN R., and RING, BARBARA. Effects of ionic strength on ribonucleic acid structure and ribonuclease activity 741
SWICK, ROBERT W. Measurement of protein turnover in rat liver 751
SAVARD, KENNETH, ANDREC, K., BROOKSBANK, B. W. L., REYNERI, C., DORFMAN, RALPH I., HEARD, R. D. H., JACOBS, R., and SOLOMON, S. S. The biosynthesis of estrone and progesterone in the pregnant mare 765
MCMANUS, I. ROSABELLE. Synthesis of intracellular peptides in *Torula utilis* .. 777
LEVITZ, MORTIMER, SPITZER, JEAN R., and TWOMBLY, GRAY H. Interconversions of 16-oxygenated estrogens. I. The synthesis of estriol-16-C^{14} and its metabolism in man 787
WIEHLER, GERHARD, and MARION, LÉO. The biogenesis of alkaloids. XX. The induced biogenesis of stachydrine 799
SUND, ROBERTA F., RAVEL, JOANNE M., and SHIVE, WILLIAM. Ornithine-citrulline enzyme synthesis in biotin-deficient cells of *Streptococcus lactis* .. 807
HANAHAN, DONALD J., and OLLEY, JUNE N. Chemical nature of monophosphoinositides 813
RECHCIGL, M., JR., LOOSLI, J. K., and WILLIAMS, HAROLD H. The utilization of D-leucine for growth by the rat 829
SNYDER, FRED, and CORNATZER, W. E. Sulfur metabolism in chemically induced necrotic liver degeneration 839
GERSHOFF, S. N., VITALE, J. J., ANTONOWICZ, I., NAKAMURA, MOTOOMI, and HELLERSTEIN, E. E. Studies of interrelationships of thyroxine, magnesium, and vitamin B_{12} 849
MOUNTER, L. A., and SHIPLEY, BARBARA A. The inhibition of plasmin by toxic phosphorus compounds 855
MCCANN, HAROLD G., and FATH, ELIZABETH H. Phosphate exchange in hydroxylapatite, enamel, dentin, and bone. I. Mechanism of exchange 863
MCCANN, HAROLD G., and FATH, ELIZABETH H. Phosphate exchange in hydroxylapatite, enamel, dentin, and bone. II. Effect of fluoride on the exchange 869
PRUSOFF, WILLIAM H. Studies on a relationship of uracil and cytosine nucleosides to biosynthesis of deoxyribonucleic acid thymine 873
LANDS, WILLIAM E. M. Metabolism of glycerolipides: a comparison of lecithin and triglyceride synthesis 883
LAYNE, ENNIS C., and NASON, ALVIN. Cytochrome *c* oxidase from *Azotobacter vinelandii* 889
FRIDOVICH, IRWIN, and HANDLER, PHILIP. Xanthine oxidase. II. Studies of the active site 899
DAJANI, RASHID M., and ORTEN, JAMES M. A study of the citric acid cycle in erythrocytes 913
LOFTFIELD, ROBERT BERNER, and EIGNER, ELIZABETH ANN. The time required for the synthesis of a ferritin molecule in rat liver 925
JERVELL, KRISTIAN F., DINIZ, CARLOS R., and MUELLER, GERALD C. Early effects of estradiol on nucleic acid metabolism in the rat uterus 945
STADTMAN, THRESSA C., ELLIOTT, PATRICIA, and TIEMANN, LYDIA. Studies on the enzymic reduction of amino acids. III. Phosphate esterification coupled with glycine reduction 961
HERBERT, EDWARD. The incorporation of adenine nucleotides into ribonucleic acid of cell-free systems from liver 975
MILLER, KENT D. Chromatographic isolation of plasma prothrombin and trans-α-glucosylase 987

MILLER, KENT D., and COPELAND, WILLIAM H. Bovine blood trans-α-glucosylase, properties and measurement 997
HEATH, E. C., HURWITZ, JERARD, HORECKER, B. L., and GINSBURG, A. Pentose fermentation by *Lactobacillus plantarum*. I. The cleavage of xylulose 5-phosphate by phosphoketolase 1009
HEATH, E. C., HORECKER, B. L., SMYRNIOTIS, P. Z., and TAKAGI, YASUYUKI. Pentose fermentation by *Lactobacillus plantarum*. II. L-Arabinose isomerase 1031
BURMA, D. P., and HORECKER, B. L. Pentose fermentation by *Lactobacillus plantarum*. III. Ribulokinase 1039
BURMA, D. P., and HORECKER, B. L. Pentose fermentation by *Lactobacillus plantarum*. IV. L-Ribulose 5-phosphate 4-epimerase 1053
WINER, ALFRED D., and SCHWERT, GEORGE W. Lactic dehydrogenase. IV. The influence of pH on the kinetics of the reaction 1065
ROTH, JAY S. Ribonuclease. VII. Partial purification and characterization of a ribonuclease inhibitor in rat liver supernatant fraction 1085
ROTH, JAY S. Ribonuclease. VIII. Studies on the inactive ribonuclease in the supernatant fraction of rat liver 1097
DEUTSCH, H. F., and MORTON, JANE I. Human serum macroglobulins and dissociation units. I. Physicochemical properties 1107
MORTON, JANE I., and DEUTSCH, H. F. Human serum macroglobulins and dissociation units. II. Immunochemical properties 1119
INDEX TO VOLUME 231 1129